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Research To Prevent Blindness, Inc.

1978 Annual Report



RPB-Sponsored Eye Research Centers, and Laboratories Currently Receiving RPB Annual Grant Support

 Institutions receiving
RPB grant support

 RPB-sponsored
eye research centers

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To stimulate, sustain and intensify a concerted research attack against blindness—with the goal of developing preventives, cures and effective treatments for diseases of the visual system that damage and destroy sight.

To do so by mobilizing logistical support for eye research, making available essential laboratory space, equipment, scientific personnel and money for the preservation of sight and the restoration of vision.

Each year Research to Prevent Blindness, Inc. (RPB) dispenses grants for eye research to approximately 50 of the nation's leading medical schools for the purpose of increasing their research capability and productivity.

In addition, RPB provides incentives to outstanding individual scientists through special awards in support of promising ongoing research.

On a continuing basis, RPB assists selected medical schools in the construction of modern eye centers for the advancement of clinical and basic research and the training of ophthalmic scientists.

Research to Prevent Blindness, Inc. (RPB) is the world's leading voluntary, non-profit organization in support of eye research. It has channeled more than \$37 million to the advancement of knowledge of the eye and its afflictions.

R P B

IN ADDITION to RPB's annual unrestricted grants to more than 50 U. S. medical institutions (identified on page 2) many also receive multiple grant support from RPB, including the funding of RPB Research Professors, Special and International RPB Research Scholars and Manpower Award scientists.

COVER. Eye movement problems of a young patient are studied in special laboratory built and equipped with RPB funds. (University of California, Los Angeles)

Our eyes tell us more than all our other senses.

To whatever degree we lose sight, we also lose contact with our surroundings. Sooner or later most people have trouble with their vision. For many, the problem becomes tragic, disrupting normal existence, bringing enforced dependence in a frightening, unfamiliar world.

One does not have to live in a sea of darkness to be "blind". Most of the visually disabled have experienced good sight, but it has been so damaged that it is no longer useful. Images do not move through the eye and into the brain in the normal manner. Light rays are blocked or scrambled in their passage, becoming blurred, distorted and unrecognizable. Tissues may deteriorate. Infections may damage cells. Muscles may malfunction. Circulation may be interrupted, as may the sensitive circuits that move electrical impulses along the visual pathways.

In almost all cases the causative factors are common, wide-spread eye diseases.

RESEARCH TO PREVENT BLINDNESS, INC. (RPB) was established in 1960 to pit the knowledge and skills of outstanding scientists and their laboratories against these devastating disorders for which the causes were largely unknown, treatment mostly unsatisfactory, and the possibility of ultimate prevention remote.

Today RPB stands at the center of a massive research attack against blindness diseases. It is providing the energy, the incentive, the imagination and the practical support to accomplish what had never before been attempted. The events of the past year—and the growing record of many thousands saved from blindness—are a continuation of the dramatic advances in eye research set in motion under RPB's leadership.



The eye is a window into the body. Its study affords unprecedented insight into how we see and how our bodies function. (University of Washington, Seattle)



Annual Research Grants to Institutions

(Grants in Support of Individual Researchers Are Not Included)

| | 1978 Grants | Total Granted Through 1978 | | 1978 Grants | Total Granted Through 1978 | | 1978 Grants | Total Granted Through 1978 |
|--|----------------|-------------------------------------|---|----------------|-------------------------------------|--|------------------|-------------------------------------|
| ARKANSAS | | | KENTUCKY | | | NORTH CAROLINA | | |
| UNIVERSITY OF ARKANSAS | \$ 7,500 | \$37,500 | UNIVERSITY OF LOUISVILLE | 7,500 | 77,500 | DUKE UNIVERSITY | 7,500 | 67,500 |
| CALIFORNIA | | | LOUISIANA | | | OHIO | | |
| UNIVERSITY OF CALIFORNIA, DAVIS | — | 5,000 | †LOUISIANA STATE UNIVERSITY | 7,500 | 7,500 | CASE WESTERN RESERVE UNIVERSITY | — | 5,000 |
| UNIVERSITY OF CALIFORNIA, LOS ANGELES | 7,500 | 97,500 | TULANE UNIVERSITY | — | 75,000 | OKLAHOMA | | |
| UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | 7,500 | 97,500 | MARYLAND | | | UNIVERSITY OF OKLAHOMA | — | 5,000 |
| PACIFIC MEDICAL CENTER | 7,500 | 52,500 | JOHNS HOPKINS UNIVERSITY | 7,500 | 97,500 | OREGON | | |
| FRANCIS I. PROCTOR FOUNDATION | 7,500 | 97,500 | UNIVERSITY OF MARYLAND | 7,500 | 52,500 | UNIVERSITY OF OREGON | 7,500 | 97,500 |
| UNIVERSITY OF SOUTHERN CALIFORNIA | 7,500 | 17,500 | MASSACHUSETTS | | | PENNSYLVANIA | | |
| STANFORD UNIVERSITY | 7,500 | 42,500 | BOSTON UNIVERSITY | 7,500 | 62,500 | JEFFERSON MEDICAL COLLEGE (WILLS EYE HOSPITAL) | 7,500 | 72,500 |
| COLORADO | | | HARVARD UNIVERSITY (HOWE LA- BORATORY OF OPHTHALMOLOGY) | 7,500 | 97,500 | TEMPLE UNIVERSITY | — | 30,000 |
| UNIVERSITY OF COLORADO | 7,500 | 77,500 | RETINA FOUNDATION (EYE RESEARCH INSTITUTE) | 7,500 | 97,500 | UNIVERSITY OF PENNSYLVANIA | 7,500 | 97,500 |
| CONNECTICUT | | | TUFTS NEW ENGLAND MEDICAL CENTER | 7,500 | 47,500 | UNIVERSITY OF PITTSBURGH | 7,500 | 12,500 |
| YALE UNIVERSITY | 7,500 | 87,500 | MICHIGAN | | | TENNESSEE | | |
| DISTRICT OF COLUMBIA | | | UNIVERSITY OF MICHIGAN | 7,500 | 97,500 | VANDERBILT UNIVERSITY | 7,500 | 47,500 |
| GEORGETOWN UNIVERSITY | 7,500 | 47,500 | WAYNE STATE UNIVERSITY (KRESGE EYE INSTITUTE) | 7,500 | 62,500 | TEXAS | | |
| GEORGE WASHINGTON UNIVERSITY | 7,500 | 47,500 | MINNESOTA | | | BAYLOR COLLEGE OF MEDICINE | 7,500 | 82,500 |
| FLORIDA | | | UNIVERSITY OF MINNESOTA | 7,500 | 97,500 | *UNIVERSITY OF TEXAS MEDICAL SCHOOL, SAN ANTONIO | 2,500 | 5,000 |
| UNIVERSITY OF FLORIDA | 7,500 | 87,500 | MAYO INSTITUTIONS | 7,500 | 12,500 | UNIVERSITY OF TEXAS (SOUTH- WESTERN MEDICAL SCHOOL) | — | 10,000 |
| UNIVERSITY OF MIAMI | 7,500 | 97,500 | MISSOURI | | | VIRGINIA | | |
| GEORGIA | | | WASHINGTON UNIVERSITY | 7,500 | 97,500 | MEDICAL COLLEGE OF VIRGINIA | 7,500 | 62,500 |
| EMORY UNIVERSITY | 7,500 | 12,500 | NEW YORK | | | WASHINGTON | | |
| MEDICAL COLLEGE OF GEORGIA | 7,500 | 17,500 | COLUMBIA UNIVERSITY | 7,500 | 97,500 | UNIVERSITY OF WASHINGTON | 7,500 | 52,500 |
| ILLINOIS | | | CORNELL UNIVERSITY | — | 50,000 | WISCONSIN | | |
| UNIVERSITY OF CHICAGO | 7,500 | 97,500 | EYE BANK FOR SIGHT RESTORATION | — | 10,000 | MEDICAL COLLEGE OF WISCONSIN | 7,500 | 52,500 |
| UNIVERSITY OF ILLINOIS | 7,500 | 37,500 | MT. SINAI SCHOOL OF MEDICINE | 7,500 | 72,500 | UNIVERSITY OF WISCONSIN | 7,500 | 37,500 |
| NORTHWESTERN UNIVERSITY | — | 5,000 | NEW YORK UNIVERSITY | 7,500 | 97,500 | TOTAL | \$362,500 | \$3,405,000 |
| INDIANA | | | UNION UNIVERSITY (ALBANY MEDICAL COLLEGE) | 7,500 | 42,500 | | | |
| INDIANA UNIVERSITY | 7,500 | 97,500 | YESHIVA UNIVERSITY (ALBERT EINSTEIN COLLEGE OF MEDICINE) | 7,500 | 57,500 | | | |
| IOWA | | | | | | | | |
| UNIVERSITY OF IOWA | 7,500 | 97,500 | | | | | | |

† New RPB Grantee

* RPB Research Development Grant



More than 50 medical schools throughout the U.S. were conducting advanced eye research with RPB support during 1978.

Many could date their association with RPB to the early 1960's when eye research occupied little or no part in the scientific programs of most of these institutions. RPB's introduction of annual unrestricted grants to departments of ophthalmology was the first step in the revitalization of vision research and the beginning of a nationwide scientific attack against blinding diseases. RPB stipulated only that chairmen of ophthalmology use its funds to intensify their research efforts, reporting briefly each year on progress. The action gave life to a multitude of plans and projects

for which support had previously been unavailable. Thus, without public fanfare or costly fund raising campaigns, RPB opened wide the doors for brilliant advances in the preservation and restoration of sight.

Today, reports of eye research achievements come to RPB from a vast network of productive laboratories where studies encompassing every facet of visual function and disorder are being pursued by teams of outstanding scientists. Their findings are the products of a host of scientific and technological disciplines. Many have immediate and dramatic impact—a new drug is developed, a revolutionary surgical technique or device extends the widening circle of those whose sight can be saved. Still other advances go unheralded, occurring in areas of basic science where milestone achievements take place in test-tubes and tissue cultures, leading step by step toward ultimate goals of prevention, control and cure.

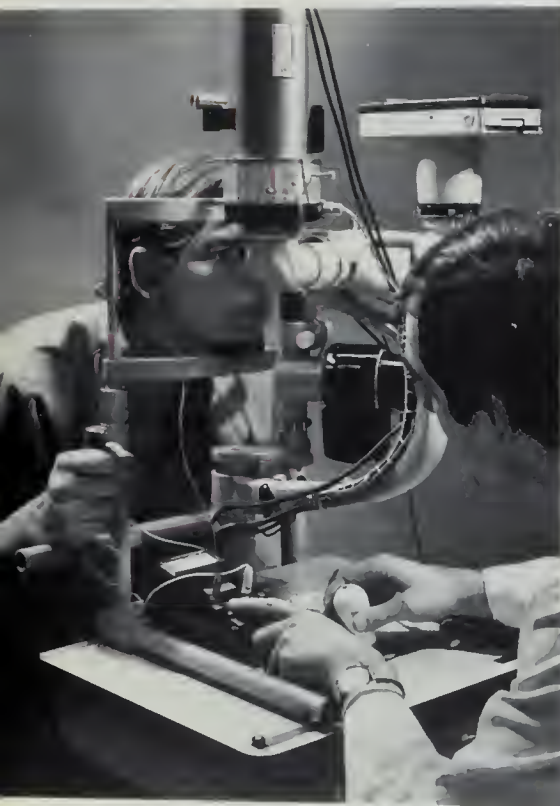
In one typical area—cataract—improved surgical methods, the development of better contact lens materials and the introduction of the intraocular implant are stunning achievements in clinical research. All are the result of man's determination to circumvent the as yet unpreventable formation of opacities in the natural lens. But working on still another level are scientists who are convinced that cataracts can be prevented. An historic breakthrough has been the finding that an enzyme, aldose reductase, is responsible for the formation of "sugar" cataracts. Further

testing and manipulation of thousands of chemicals and combinations of chemicals have led to the discovery of compounds that inhibit this enzyme's activity and successfully retard cataract formation in certain laboratory animals. These are giant steps, giving cause for optimism. But the jump from the laboratory to the pharmacy shelf is wide and there is no quick way around the many questions that remain to be answered. Nevertheless, it is hoped that human trials of such a drug may lie in the not-too-distant future.

*Research encompassing every major eye disease and every facet of the visual process is being pursued by teams of outstanding scientists through annual grant support from RPB.
(University of Chicago)*



Mayo Institutions



The results of eye research reach quickly into the lives of patients, restoring and preserving sight, and sometimes life.

University of California, San Francisco
(Proctor Foundation)

University of Pennsylvania



(continued)

Efforts to halt the blinding consequences of diabetes have thrust eye researchers into the mainstream of research on this disease whose prevalence in the United States has reached 10 million and is increasing by 600,000 new cases each year. Their target is diabetic retinopathy, a condition which affects vision in a number of ways, most tragically by breaking down the walls of the tiny blood vessels of the retina. The weakened vessels proliferate and hemorrhage, blood accumulates in the vitreous and sight is lost. Ophthalmic scientists have adapted the laser beam to seal off leaking vessels, and the development of a revolutionary surgical procedure and instrument now makes it possible to remove and replace the once inaccessible vitreous deep in the inner recesses of the eye. Through such advances, physicians are now saving and even restoring the sight of thousands who otherwise would be blind.

Meanwhile, other areas of eye research are contributing substantial insight into diabetes itself. The eye provides a window into the body, the only portal through which the living human vascular system can be observed directly without cutting into tissues. A new process called vitreous fluorophotometry now detects minute degrees of leakage from retinal vessels long before the usual signs of damage become apparent. The technique is not only clinically important to the early treatment of the ocular disease, but provides a valuable tool for diabetes research and the testing of potential



Eye Research Cuts Millions from Medical Costs

The human rewards of eye research—the ability to see, the joy of recovered sight, of tragedy prevented—cannot be calculated in economic terms. But the cost of medical care, of hospitalization and surgery, are measurable in bottom-line, dollars-and-cents totals that affect every eye patient, and the nation's overall economy. In financial terms, eye research pays off in huge multiples of the amounts invested. Some examples:

- An estimated 400,000 cataract operations are performed every year. A short time ago, post-operative care required as much as ten days of hospitalization. But research has developed new surgical techniques and instruments, new drugs and surgical materials, and increased knowledge of the eye's anatomy. As a result, hospitalization for cataract has been reduced to two or three days, and in some cases no hospital stay is required. With daily room costs sky-rocketing as high as \$200 and beyond, it is conservatively estimated that in this one aspect of medical costs alone, the total saving is \$60 million to \$80 million for each day saved, or about half a billion dollars per year!

- There are at least 22,000 persons in the United States who are legally blind from diabetic retinopathy, a destructive ocular manifestation of diabetes. Field trials of photocoagulation—a treatment for this condition developed through research—indicate that if it had been possible to apply such therapy to this entire group, 60 per cent would have been saved from blindness. By calculating the average cost of maintaining a blind person, government sources state that \$240 million would have been saved over a five-year period, as well as the sight of 13,200 people, had the therapy been available. Projecting their figures further to the 600,000 diabetic Americans believed now at the risk of retinopathy the same sources have estimated future savings of billions of dollars through the employment of this important product of vision research.

- Traditional eye drops that provide adequate therapy for most glaucoma patients have not served the needs of thousands of others in whom the same medications are ineffective or produce intolerable side effects. The only alternative has been surgery, which is performed on three per cent of glaucoma patients at a cost of \$16 million each year. Now research has produced a drug that has demonstrated effectiveness in a majority of the intractable cases on which it has been used, with fewer applications and a general absence of undesirable reactions. It is one of a group of chemicals called beta-blockers which have been under study since their ability to reduce intraocular pressure was noted by an RPB grantee. Initial reports on the drug indicate that surgery is being postponed or totally avoided for a large percentage of previously unmanageable glaucoma patients. Through the development of such important new chemical agents for glaucoma and other eye disorders, many millions of dollars in surgical and hospital costs are being cut from the cost of medical care.

- Some savings resulting from eye research are of such magnitude that one can only speculate as to their probable total. Before the cause of retrolental fibroplasia was discovered, hundreds of premature babies were blinded mysteriously each year by this destructive eye disease. When research pinpointed the causative factor—excessive oxygen—the tragedy ended. As a result, some 6,000 infants each year have since been saved from an entire lifetime of blindness. The cumulative cost of care and government assistance for that number of little ones alone has been estimated at many billions of dollars. The research that preserved their sight cost \$150,000!

Blindness is expensive, and so—far less so—is research. But what price can be placed on the gift of sight? What measure is there of its deprivation? There are no numerical scales for personal tragedy.



Aging and the Threat of Blindness

Aging is a major factor in the increasing prevalence of blindness in the United States. Almost 25 million Americans—11 per cent of the population—are presently over the age of 65, and by the year 2000 there will be close to 32 million in that age bracket, with projections increasing still more sharply beyond that. Among eye disorders found in patients over 65, senile macular degeneration is named by ophthalmologists as one of the most common, and the most difficult to treat. There is presently no cure for the disorder, no way of preventing it and no truly effective therapy. For this huge segment of our population, constantly increasing in numbers and vitality, the gift of longevity is too often tragically marred by loss of sight. The solution must come from research. When RPB was established, basic research in retinal diseases was almost non-existent. Today, with this area of eye research vastly expanded under RPB's impetus, we are seeing developments that give hope for an understanding of the fundamental processes at work in macular degeneration, diabetic retinopathy, retinitis pigmentosa and other retinal disorders that have defied all previous efforts at explanation. There is now reason for confidence that what research has done to free the aging from cataract blindness, it may also achieve in this far more complex area of scientific investigation.

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therapies. In their search for a non-surgical means of halting the damaging blood vessel growth characteristic of diabetic retinopathy, scientists have been buoyed by the discovery of what is called an "angiogenesis factor" in malignant cells—a substance exuded by such cells which causes blood vessels in the surrounding area to proliferate. Moreover, a chemical has been found that inhibits the factor's activity, thus opening a major field of promising research with potential significance to diabetes, sickle cell disease and cancer.

On other research fronts:

- An enzyme defect has been found in certain strains of dogs and mice with inherited retinal degenerations, providing a clue to the possibility that such an abnormality is at work in the human disease.
- Another defect has been demonstrated in a rare but significant form of retinitis pigmentosa—the absence of a protein essential for the metabolizing of Vitamin A in the eye, thus depriving the retinal cells of a substance indispensable to their function.
- Scientists have grown corneal endothelial cells in tissue cultures, and have transplanted them to the corneas of laboratory animals. The corneal endothelium is a single layer of transparent cells at the back of the cornea that is vital to vision but does not heal in the

eye when damaged. The ultimate hope is to apply this knowledge to humans, replacing diseased and aged endothelium with healthy, functional cells that have been propagated in cultures.

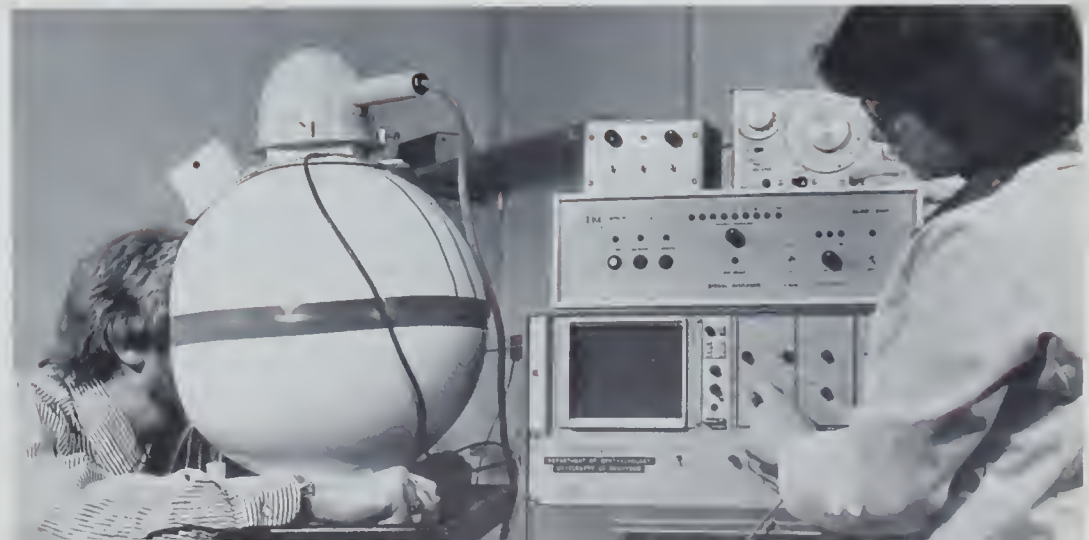
- An answer to pigmentary glaucoma—an untypical form of the disease—has been found with the development of a safe and effective drug that halts the loss of pigment that is characteristic in such patients.
- Vitrectomy, the remarkable surgical technique and instrumentation introduced by RPB Trustees Award winner Dr. Robert Machemer, is credited with restoring the sight of thousands throughout the world who had been hopelessly blinded by hemorrhages that destroy the transparency of the vitreous, a gel-like substance that fills the interior of the eye. The device, which has been especially effective in the treatment of diabetic retinopathy, is now demonstrating its versatility in dealing with a number of other potentially blinding conditions, including uveitis, toxoplasmosis and other intractable infectious diseases of the inner eye.
- A tiny, clear disc of plastic is clipped into the eye to replace the natural lens removed in cataract surgery, and the intraocular lens implant becomes a reality.
- A laser device permits the ophthalmologist to “see through” the most densely clouded cataract and determine, before he operates, if the retina is healthy and surgery indicated.

- The physician focuses his instrument and watches blood cells tumbling through the eye’s vascular system. With space-age devices and precision he measures the flow of oxygen to the retina or the transport of essential fluids in and across the microscopic meshwork of tissues whose structure and functions have to now been largely hidden.
- The secrets of the retina’s receptor cells, the minute complex of rods and cones that translate waves of light into electrical impulses to the brain, are studied in health and in disease, revealing their continuous death and regeneration. The chemical transmitters of signals from cell to cell are broken down and analyzed, in the search for clues to how their function and that of myriad components of the visual system may be enhanced, preserved

and protected from damage and degeneration.

There are no simple answers to the problem of blindness—no Salk vaccine in the offing to wipe it away in one magnificent scientific victory. The multiplicity of unknown causes, the diversity of the consequences of eye disease and the matchless mystery of sight itself present a massive sea of question marks. Today’s ophthalmic scientist attacks the obstacles one by one with knowledge and weapons never before available. His ingenuity is unlimited. His successes, often unnoted by any but his peers, will bless the lives of thousands, and eventually millions. And, armed with greater insight and fresh confidence, he will move on to the next question, and the next, until each blinding disease is brought under control.

Today’s ophthalmic scientist attacks the problems of visual failure with knowledge and weapons never before available. RPB funds are equipping laboratories with sight-saving instruments that have revolutionized the fight against blinding diseases. (University of Michigan)





Ophthalmic Achievement Award

The \$25,000 RPB Trustees Award for Outstanding Ophthalmic Achievement—the world's highest prize for past accomplishments in eye research—was presented by RPB Chairman Dr. Jules Stein to Dr. Robert Machemer (left) chairman of ophthalmology, Duke University Eye Center, at the annual meeting of the American Academy of Ophthalmology. Dr. Machemer conceived and perfected an instrument and technique for the removal of diseased vitreous from the inner cavity of the eye without destroying its essential functions or the integrity of the globe. Vitrectomy, previously considered far too hazardous a surgical procedure, is now widely accepted and is credited with restoring the sight of more than 5,000 persons considered hopelessly blinded as a result of vitreous hemorrhages, a devastating complication of diabetes. The potential of Dr. Machemer's work was recognized by RPB almost a decade ago when it provided impetus and encouragement to his research at the University of Miami School of Medicine by choosing him as recipient of the first \$25,000 RPB Special Scholars Award in 1970.



Special Awards for Ongoing Research

A number of outstanding young vision scientists again have been selected by RPB for special individual grant support. Unlike the RPB Trustees Award which honors past accomplishments, these special awards are provided to stimulate and encourage research of unusual promise now in progress. RPB Research Professorships are intended to encourage institutions to create new positions in departments of ophthalmology for extraordinarily talented researchers. RPB Special Scholars and Manpower Award recipients are chosen for unusual merit and significance of their work and the exceptional abilities they bring to it. Each year it becomes more difficult to select a limited number of scientists from a field now vibrant with enthusiastic and gifted young researchers. It should be gratifying to contributors to RPB that the inducements provided by its programs are in a large measure responsible for the steady growth of this impressive body of dedicated scientific talent.

Daniel M. Albert, M.D., of Harvard Medical School, Boston, is the recipient of the \$25,000 RPB-William and Mary Greve International Scholars Award to

assist his efforts to determine the causes of retinoblastoma and malignant melanoma, and to develop effective methods of treating these blinding and potentially fatal eye tumors. Dr. Albert, at age 41, already has made substantial contributions to the study and diagnosis of ocular cancer. The RPB-Greve Award was won in international competition and is the highest given worldwide for work in progress.

Peter Gouras, M.D., of Columbia University, New York City, was appointed to a five-year RPB Research Professorship, providing salary support totaling \$75,000 over that period. The award assures the continuity of his exciting research in retinal degeneration, the major cause of blindness in the elderly. Dr. Gouras is well known among his peers for his work in basic physiology, and especially for his contributions to knowledge of the primate retina. He and his associates are attempting to alter genetically defective retinal cells by the introduction of therapeutic substances such as enzymes.

Ronald E. Smith, M.D., of the University of Southern California School of Medicine, has received the \$10,000 RPB-James S. Adams Research Award to assist his research in ocular histoplasmosis, an inflammation of the macula that affects one in every 1,000 adults in endemic areas in the United States. Dr. Smith recently coordinated a major epidemiological study of the disease, and has developed primate models which are providing important information on this sight-destroying



Dr. Ronald E. Smith



Dr. Daniel M. Albert

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Special Awards for Ongoing Research

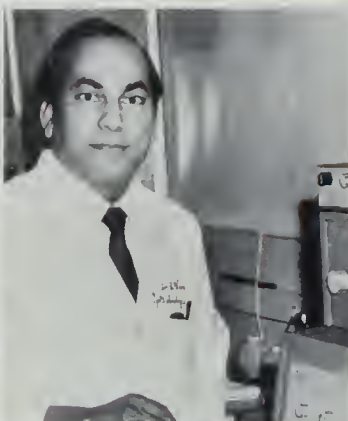
Dr. J. Terry Ernest



Dr. Rockefeller S. L. Young



Dr. Shambhu D. Varma



Dr. Robert F. Miller



Dr. Arthur L. Rosenbaum



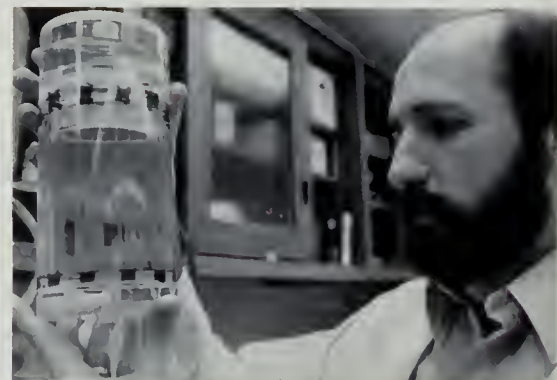
Dr. Douglas R. Anderson



Dr. Gordon L. Fain



Dr. Ted W. Reid



infection of the inner eye for which the etiology is unknown. A major goal is the trial of therapeutic measures including laser photocoagulation and corticosteroids.

Thom J. Zimmerman, M.D., Ph.D., of Louisiana State University Medical Center, New Orleans, is the recipient of the \$10,000 RPB-Robert E. McCormick Award to assist his investigations into the mechanisms which regulate the outflow of aqueous humor from the eye—a major focus of attention in the study of glaucoma. Dr. Zimmerman is already well known for his role in the development of the important new glaucoma

pressure-reducing drug, timolol. Moving many steps further, he is exploring the anatomical and physiological aspects of aqueous outflow control, the definition of which could lead to still more effective anti-glaucoma drugs with fewer side-effects.

Rockefeller S. L. Young, Ph.D., of the University of Illinois Medical Center, Chicago, is the recipient of a \$7,500 RPB Manpower Award which will provide supplemental salary support for this key investigator. Dr. Young has undertaken a series of collaborative experiments into the causes of photopic blindness in retinitis pigmentosa. The objective is an understanding of how and why such patients lose vision sensitivity, visual acuity, and acquire photo-aversion to bright lights. The experiments are expected to provide important insights into macular dystrophy and other hereditary diseases of the macula and choroid.

Arthur L. Rosenbaum, M.D., of the University of California, Los Angeles, School of Medicine, has received an RPB Manpower Award of \$25,000 to build and equip a special ocular motility laboratory for research in childhood diseases of the eye. The laboratory will permit intensive studies of strabismus and retinal diseases in youngsters using techniques designed to improve the accuracy of diagnosis. Dr. Rosenbaum (shown on cover of this report) also has developed a laboratory model of retrolental fibroplasia and is exploring the effectiveness of Vitamin E as a retardant to progression of the disease.

While such new RPB special awards were providing fresh incentive and support for these young scientists, others previously appointed were reporting on the progress of their studies:

Douglas R. Anderson, M.D.
University of Miami
RPB-William and Mary Greve Scholar.

Reports extensively on the expansion of his clinical and laboratory research program in glaucoma. Studies have been launched aimed at understanding of the mechanism of optic disc cupping and atrophy. Definitive protocols are being established to identify earliest changes in glaucoma and develop ways to detect them.

Shambhu D. Varma, M.D.
University of Maryland
RPB-William Friedkin Scholar.

Reports on continuing progress toward retarding the formation of diabetic cataracts through use of flavonoids and related compounds. The nutritional importance of ascorbic acid to ocular structures and as a deterrent to lens damage is also under study, as well as the role of oxygen toxicity in retrolental fibroplasia.

Robert F. Miller, M.D.
Washington University, St. Louis
RPB-Robert E. McCormick Scholar.

Reports extensive renovation and equipping of research laboratories in preparation for electrophysiological experiments into the neural organization of the vertebrate retina. It is expected that the work will establish the vertebrate

retina as the first central nervous system tissue in which detailed information regarding the structure and function of the neural pathways is revealed.

Gordon L. Fain, Ph.D.
University of California, Los Angeles
RPB-James S. Adams Scholar.

Reports progress in investigations into the mechanisms of visual sensitivity in photoreceptor cells of the retina. Using pharmacological techniques, Dr. Fain and his colleagues are making significant additions toward the understanding of how responses to light are generated and transmitted.

J. Terry Ernest, M.D., Ph.D.
University of Wisconsin
RPB Eye Research Professor.

Reports intensive research in three important areas including 1) assessment of the affect of timolol on the circulation of the optic disc and choroid; 2) studies of macular circulation; and 3) elucidating the role of blood sugar, insulin and other factors in the occurrence of diabetic retinopathy in the search for new methods of treatment.

Ted W. Reid, Ph.D.
Yale University
RPB Eye Research Professor.

Under RPB's professorship, Dr. Reid was able to demonstrate a possible viral cause of human ocular tumors and has grown normal human retinal cells in culture without serum for the first time, using material extracted from retinoblastoma (eye tumor) cells. The work opens the way for extensive study of human ocular cells grown in cultures.



Laboratory Construction-- A Study in Foresight

Preliminary discussions are continuing between RPB and a number of the many medical schools which now see compelling reasons for the construction of eye centers to accommodate the vast, and still largely untapped, potential of ophthalmic research. Under RPB's sponsorship, six modern institutes have set the stage for the nationwide expansion of laboratory space for the study and treatment of eye diseases. Individually, they serve as models for the efficient and economical execution of building programs. Together, they have quadrupled the amount of research space previously available for investigative ophthalmology in the United States. This has been done at a total fund raising cost of less than two per cent.

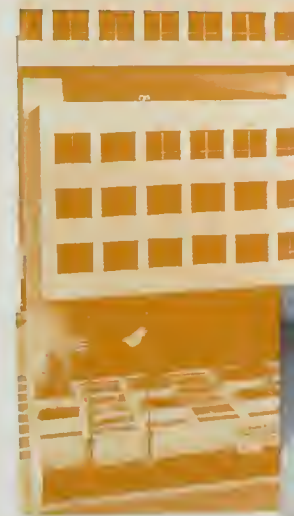
This phenomenal record is made possible by the unique program through

which RPB finances preliminary surveys to establish the feasibility of each building proposal and thereafter underwrites and oversees rigorous campaign management. RPB receives none of the funds contributed to eye center campaigns. On the contrary, it absorbs the fund raising costs while all donations are made directly to the medical institutions and are used entirely to construct and equip the facilities.

In the Spring of 1978, the RPB-sponsored Cullen Eye Institute of Baylor College of Medicine and The Methodist Hospital celebrated the official dedication of its splendid new research laboratories at Houston, Texas. The \$14 million eye facility is the sixth constructed under the RPB plan, following those now in operation at Johns Hopkins University, the University of California, Los Angeles (the Jules Stein Eye Institute), Columbia University, the University of Louisville, and the Medical College of Wisconsin. A feasibility study of similar campaign possibilities at the University of Colorado was authorized by the Trustees of RPB late in the year.

The RPB laboratory construction program was inaugurated in the early 1960's, anticipating by more than a decade the rapid growth of eye research under its leadership. Today, spurred by the success of these undertakings, comprehensive eye centers are arising in every part of the country, embracing patient services, advanced research and vision training. Here are found the arenas of highly intensified and productive research, attracting the finest of basic and clinical vision scientists. Here

are developed and refined those safer, simpler and surer concepts in the management of eye disease that are erasing the once-justified dread of therapy. Large numbers of people are being moved to seek assistance for visual disorders that once would have been suffered in hopeless frustration. Through RPB's foresight, the nation is prepared as it has never been before to halt the tragedy of blindness.



Participating in scientific dedication of the Cullen Eye Institute at Houston, Texas, RPB chairman Dr. Jules Stein (right) observes demonstration of computerized control systems by Dr. David Paton, director of the new RPB-sponsored research center at Baylor College of Medicine.



University of Colorado officials discuss plans for a proposed eye research center in Denver, Colorado, with David F. Weeks, executive vice president of Research to Prevent Blindness, Inc. Left to right are J. Laird Hanson, the University's director of development, Mr. Weeks, Dr. Philip P. Ellis, chairman of the department of ophthalmology and John W. Cowee, Chancellor of the University of Colorado.



International Research Scholars

A neurophysiologist from Australia and a Japanese researcher in genetic defects of the eye are the 49th and 50th foreign scientists to be appointed RPB International Research Scholars for collaborative studies in American eye research laboratories.

SYDNEY (Australia)—SEATTLE

Polish scientist Bogdan Dreher, Ph.D., lecturer in the department of anatomy at the **University of Sydney**, Australia, will continue a long-standing relationship with scientists at the **University of Washington**, Seattle, during a six-month period in 1979. He will assist in the development of a physiology laboratory for studying the neural basis of color transmission between the retina and the brain.

TOKYO (Japan)—BALTIMORE

Yasuhiko Tanaka, M.D., of **Keio University**, Tokyo, arrived in midsummer at **Johns Hopkins University** for basic studies of metabolic and genetic diseases, joining in efforts to identify biochemical defects which may be linked to various types of retinal degenerations.

The Trustees also appointed an additional International Scholar, an outstanding eye pathologist at **Humboldt University**, East Berlin, to engage in studies at the **University of Iowa**. His visit—which would have been the second by an RPB Scholar from behind the Iron Curtain—unfortunately was indefinitely postponed by authorities of his country.

Two other Japanese scientists, two from Switzerland and others from Israel, Poland, Portugal and Venezuela either completed or were continuing collaborative studies at institutions from California to Massachusetts and from Texas to Illinois.

GENEVA (Switzerland)—HOUSTON

Peter M. Leuenberger, M.D., returned to the **University of Geneva**, Switzerland, after two months at **Baylor University**, Houston, Texas, where studies were conducted in the biology of photoreceptor cells of the retina and the nature of plasma leakage from retinal capillaries in diabetic retinopathy.

ZURICH (Switz.)—SAN FRANCISCO

Also returning to Switzerland from the **University of California, San Francisco**, was Gunter Niemeyer, M.D., of the **University of Zurich**, following research in clinical and experimental electrophysiology and pharmacology, including tests of the chemical effects of various intensities of light on the retina and vitreous.

MARACAY (Venezuela)—NEW YORK

Ricardo Montoreano, M.D., of the **University of Maracay**, Venezuela, completed joint investigations at **Mt. Sinai School of Medicine**, New York City, employing laboratory techniques designed by the group for studies of the interaction of beta-blocking agents with other drugs used to reduce intraocular pressure in glaucoma therapy.

JERUSALEM (Israel)—ST. LOUIS

At **Washington University**, St. Louis, Moshe Feinsod, M.D., of **Hadassah University**, Jerusalem, worked with his American counterparts in establishing a methodology for the study of patients with glaucoma or with a suspected tendency to glaucoma. Using special techniques through which they hope to predict which patients will develop visual field loss, the collaborators developed parallel methods and equipment for their studies so that information may be exchanged on a continuing basis between countries.

WARSAW (Poland)—BOSTON

Krzysztof Dolowy, Ph.D., of the **University of Warsaw**, Poland, completed an extended stay at the **Eye Research Institute of the Retina Foundation**, Boston, in which he and his colleagues tested and demonstrated important new information on the mechanisms by which surface cells of the retina react with other specific cells to maintain normal retinal adhesion.

MAEBACHI (Japan)—BOSTON

Sadao Hori, M.D., of **Gunma University**, Maebashi, Japan, was similarly engaged in research at the Retina Foundation, exploring the nature of the basic vascular changes that take place in cells of the retina and brain in diabetic retino-



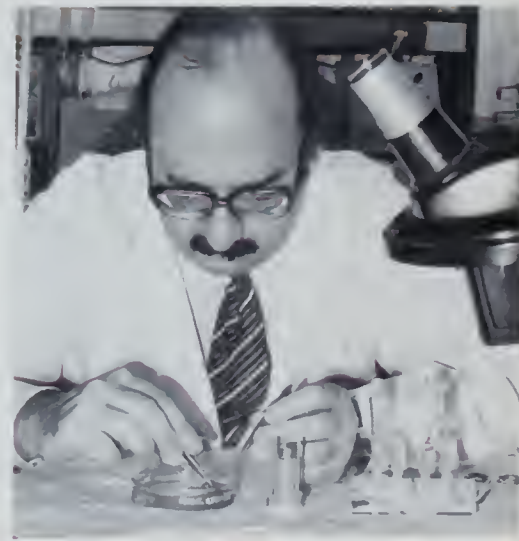
Dr. Moshe Feinsod (center) with Drs. Mitchel L. Wolf (left) and Ronald Burde



Dr. Yasuhiko Tanaka



Dr. Gunter Niemeyer



Dr. Ricardo Montoreano

pathy. The joint studies will go forward in Japan and Boston with continuous communication between the scientists.

OKAYAMA CITY (Japan)—BALTIMORE

At **Johns Hopkins University**, Baltimore, Hisayuki Ueno, M.D., of **Okayama University**, Okayama City, Japan, is continuing studies of the effect of various human diseases on the ocular tissues using transmission and scanning electron microscopy. Results of the research, soon to be published in the *American Journal of Ophthalmology*, will also provide significant new information in the search for causes of glaucoma.

COIMBRA (Portugal)—CHICAGO

Jose G. F. Cunha-Vaz, M.D., Ph.D., of the **University of Coimbra**, Portugal, joined scientists at the **University of Illinois** in clinical research involving the early breakdown of the blood-retinal barrier in diabetic retinopathy. The research group utilized new equipment and techniques developed by Dr. Cunha-Vaz that permits early discovery of minute degrees of leakage from retinal vessels into the vitreous of diabetics. The technique, called fluorophotometry, is expected to have significant impact in the study and treatment of sickle cell anemia and retinitis pigmentosa, as well as diabetes.



Dr. Sadao Hori



Dr. Hisayuki Ueno



Dr. Peter Leuenberger (c) with Drs. Joe G. Hollyfield and Robert E. Anderson



Ophthalmological Membership Passes Million-Dollar Mark



A. Edward Maumenee, M.D., director of the famed Wilmer Ophthalmological Institute of Johns Hopkins University and founding member of RPB's Scientific Advisory Panel, is greeted by Congressman Harley O. Staggers as he arrives at Congressional hearing to request increased Federal funding of eye research. The testimony of Dr. Maumenee and other distinguished scientists, coordinated by RPB in its continuing effort to inform the Congress of eye research needs, has been a key factor in winning legislative interest and support for the research fight against blindness.

More than one million dollars has accrued to RPB's research programs through the membership of ophthalmologists and vision scientists as RPB Ophthalmological Associates. Three-fourths of this amount has been contributed by the Associates through dues paid since inauguration of the membership program in 1971. The remaining quarter of a million is the result of Dr. Stein's matching of all first-year membership fees. Membership contributions are used entirely in support of research and have had telling impact upon clinical knowledge of disease processes and the rapid advancement of diagnosis and treatment of eye problems.

RPB Associates have been influential in providing important information regarding bequests to eye research through the distribution to their patients of the pamphlet, "Do You Fear Loss of Vision?" Correspondence from patients indicates a mounting wave of interest in research, accompanied by expressions of confidence in the knowledge that their personal eye physicians hold membership as RPB Ophthalmological Associates. Membership is open to the ophthalmological community, providing an ideal means for physicians and scientists to combine their professional and philanthropic interests in vision.



RPB Ophthalmological Associates are greeted warmly at Kansas City reception honoring Trustees Award winner Dr. Robert Machemer, who was joined by Mrs. Machemer (right) on the reception line. Associate members were special guests of RPB chairman Dr. Jules Stein (left) accompanied by his daughter, Mrs. Jean vanden Heuvel.

In October, 1978, RPB Ophthalmological Associates were the special guests of the Board of Trustees at a reception honoring Dr. Robert Machemer, winner of the RPB Trustees Award for Outstanding Ophthalmic Achievement. Held in conjunction with the annual meeting of the American Academy of Ophthalmology at Kansas City, Missouri, the reception provided an opportunity for initiating and renewing informal relationships among leaders of the ophthalmic community from every part of the country. Both the Award and the reception are sponsored by RPB's Trustees and financed from their personal funds.

Dr. Stein is Named "Pioneer of the Year"

"You have been a pioneer . . . in this nation's effort to give its people better health and greater well-being. You have shared unselfishly the riches of your bountiful life and created an example for the rest of us to emulate. I, too, salute you." The tribute came from President Jimmy Carter, addressed to Dr. Jules Stein as RPB's chairman accepted the title, "Pioneer of the Year," in the presence of more than 1,000 leaders of the entertainment industry gathered in his honor in New York on October 16, 1978. The award was conferred by the Foundation of the Motion Picture Pioneers in recognition of Dr. Stein's extraordinary accomplishments in building a nation-

wide attack on blinding diseases. Speaking from a three-tiered dais at the Waldorf Astoria Hotel, Joseph A. Califano, Jr., Secretary of the Department of Health, Education and Welfare, underscored Dr. Stein's efforts to strengthen the nation's commitment to eye research, citing his creation and direction of Research to Prevent Blindness, Inc., his role in building the Jules Stein Eye Institute at UCLA, and his determined leadership in the successful efforts to launch and establish a National Eye Institute. "Today," Mr. Califano said, "this nation and its government are firmly committed to the cause that Jules Stein has championed."

RPB's contributors responded to the 1978 year-end personal appeal of Dr. and Mrs. Stein with gifts amounting to \$426,759.21 to Research to Prevent Blindness, Inc. Adhering to their traditional practice of matching all donations received in answer to their letters, the Steins matched that generosity with their own gift to RPB in the same amount, producing \$853,518.42 for the research fight against blinding diseases. Since founding RPB in 1960, Dr. Stein and his wife have contributed more than six million dollars of their personal funds to the national organization. This does not include the millions they have given directly to the Jules Stein Eye Institute at the University of California, Los Angeles.

The Honorable Joseph A. Califano, Jr. (left) Secretary of Health, Education and Welfare, joins entertainers Danny Thomas and Diana Ross in honoring Dr. Jules Stein as Pioneer of the Year.



At right: RPB Board of Trustees adjourns for lunch before resuming review of grantee reports and applications for research support. From the left are Lew R. Wasserman, William C. Conner, W. R. Hearst, Jr., Mrs. Anna Bing Arnold, Dr. Jules Stein, chairman, Anthony C. M. Kiser, Mrs. Lloyd H. Smith and David A. Werblin. Also present for the meeting was Mrs. Albert D. Lasker (inset).

At far right: RPB Scientific Advisory Panel in session. Left to right are A. Edward Maumenee, M.D., E. Cuyler Hammond, Sc.D., Oliver H. Lowry, M.D., William C. H. Prentice, Ph.D., James F. Crow, Ph.D., David G. Cogan, M.D., Harold F. Spalter, M.D., and H. K. Hartline, M.D.

Who are the Decision-Makers of RPB's Programs and Policies?

RPB is guided by people whose combined intellect, experience and expertise covers a wide diversity of interests, all of them necessary to initiating and sustaining a nationwide program of productive eye research. RPB's Board of Trustees is composed of acknowledged leaders in business, industry, communications and philanthropy who have an intense interest in the problems of visual failure. All are volunteers. Under the chairmanship of RPB's founder, Dr. Jules Stein, they have applied their talents, their time and their energies to the logistical problems of eye research—the mobilizing of scientific manpower, essential laboratory space, technical equipment and money to accomplish the objective of saving sight.

To advise and assist in their plans and decisions, the Board draws upon the specialized knowledge and experience of a panel of distinguished scientists representative of those biomedical disciplines that are the backbone of modern ophthalmic research. Members of the Scientific Advisory Panel include a geneticist, a neuro-ophthalmologist, and epidemiologist, a physiologist, a pharmacologist, a neurologist, an ophthalmologist, an internist, a psychologist and a molecular biologist. In making its decisions, the Board also calls upon Ad Hoc Committees appointed bi-annually on a rotating basis to

include chairmen of departments of ophthalmology from medical schools in every section of the nation who are directly in touch with the day-to-day problems of eye research, training and treatment.

The availability of this outstanding body of professional and scientific talent provides RPB with unique resources of human energy and ability that result in the decisive, imaginative and effective actions that characterize RPB's worldwide leadership in support of vision research. Members of the Board of Trustees, the Scientific Advisory Panel and Ad Hoc Committees serve without remuneration.

RPB does not conduct a costly general fund raising campaign. Its fund raising costs have remained at less than two per cent through almost two decades of leadership in the advancement of eye research in which it has channeled more than \$37 million in support of such activities at more than 50 institutions throughout the country. Operational expenses are paid from the contributions of the Board of Trustees so that all other gifts are used entirely for research purposes. RPB's professional staff continues to be the smallest of any major national organization in the voluntary health field.





Research to Prevent Blindness, Inc.

Statements of Support, Revenue, Expenses and Changes in Fund Balances

(Note 1)

| | Year ended December 31, | |
|---|----------------------------|--------------------|
| | 1 9 7 8 | 1 9 7 7 |
| Public support and revenue: | | |
| Public support: | | |
| Cash donations | \$ 452,347 | \$ 655,276 |
| MCA Inc. common stock donated (Notes 1, 3 and 5) | 993,626 | 437,550 |
| Other securities donated (Notes 1 and 5) | 75,260 | 63,244 |
| Ophthalmological Associate Memberships (Note 3) | 120,900 | 123,100 |
| Other income | 765 | 13,533 |
| | <u>1,642,898</u> | <u>1,292,703</u> |
| Revenue: | | |
| Interest and dividends | 500,697 | 381,052 |
| Unexpended grants | 1,792 | |
| Loss on disposition of donated securities | | (17,107) |
| Total public support and revenue | <u>2,145,387</u> | <u>1,656,648</u> |
| Expenses: | | |
| Program services: | | |
| Research grants | 569,569 | 418,190 |
| Scientific symposia, seminars and surveys | 52,858 | 37,392 |
| Program development to stimulate laboratory expansion and eye research activities | 79,930 | 74,610 |
| Laboratory construction support projects (Note 2) | 7,134 | 4,106 |
| Public and professional information | 187,141 | 132,258 |
| Total program services | <u>896,632</u> | <u>666,556</u> |
| Supporting services: | | |
| Administrative | 87,707 | 67,328 |
| Fund raising | 12,920 | 10,875 |
| Total supporting services | <u>100,627</u> | <u>78,203</u> |
| Total expenses | <u>997,259</u> | <u>744,759</u> |
| Excess of public support and revenue over expenses | 1,148,128 | 911,889 |
| Fund balances, beginning of year | <u>6,672,182</u> | <u>5,760,293</u> |
| Fund balances, end of year | <u>\$7,820,310</u> | <u>\$6,672,182</u> |

Research to Prevent Blindness, Inc.

Balance Sheets

(Note 1)

| | Year Ended December 31, | |
|---|----------------------------|--------------------|
| | 1 9 7 8 | 1 9 7 7 |
| Assets | | |
| Cash (including savings accounts | | |
| 1978 — \$203,342; 1977 — \$295,222) | \$ 258,315 | \$ 334,687 |
| Investments (Note 5) | 7,617,156 | 6,303,900 |
| Interest and dividends receivable and other assets .. | 163,458 | 135,651 |
| | <u>\$8,038,929</u> | <u>\$6,774,238</u> |
| Liabilities and fund balances | | |
| Liabilities: | | |
| Accounts payable and accrued expenses | \$ 86,119 | \$ 12,056 |
| Professorship grants payable | 132,500 | 90,000 |
| | <u>218,619</u> | <u>102,056</u> |
| Fund balances: | | |
| Current fund | 7,514,600 | 6,469,661 |
| Endowment funds: | | |
| William and Mary Greve Memorial | 204,710 | 102,521 |
| Desiree L. Franklin | 100,000 | 100,000 |
| Eugene G. Blackford Memorial | 1,000 | |
| | <u>7,820,310</u> | <u>6,672,182</u> |
| | <u>\$8,038,929</u> | <u>\$6,774,238</u> |

Notes to Financial Statements — December 31, 1978 and 1977

Note 1 — Nature of the Organization and Significant Accounting

Policies:

Nature of the organization:

Research to Prevent Blindness, Inc. (RPB) is a tax exempt organization formed for the purpose of providing the organizational and financial resources necessary to support eye research.

Significant accounting policies:

Basis of reporting — Revenue and support and all expenditures, including grants, are recorded on the accrual basis. Donations are recorded when received.

Gifts, grants, bequests — All unrestricted gifts and grants are reported in the Current Fund. Bequests and gifts accepted with the donor stipulation that the principal be maintained intact in perpetuity are reported in the Endowment Fund.

Carrying value of investments — Donated securities are recorded at market value at the date of gift and purchased securities are recorded at cost.

Taxes — RPB is a publicly supported charity exempt from taxes under Internal Revenue Code Section 501(c)(3).

Note 2 — Fund-Raising Program Service for New Eye Research Buildings:

In addition to its other programs, RPB makes it possible to build major eye research facilities by sponsoring construction campaigns for which it pays all fund-raising costs. In the past this program has made possible the construction of new eye research buildings at Johns Hopkins University, the University of California, Los Angeles, the University of Louisville, the Columbia-Presbyterian Medical Center, the Medical College of Wisconsin, and the Baylor College of Medicine, and also has provided essential impetus for another facility at Duke University.

During 1978 RPB entered into an agreement with the University of Colorado Medical Center to conduct a feasibility study as a first step in the development of a potential fund-raising campaign to raise \$4,300,000 for the construction of an Ophthalmological Institute at the Colorado Medical Center.

Note 3 — Ophthalmological Associate Membership Program:

Included in the Ophthalmological Associate Membership revenue is \$20,500 in 1978 (\$26,400 in 1977) representing new membership contributions in those years. The chairman of the board of RPB has contributed MCA Inc. common stock (recorded at market value — Note 1) in such years to match these new membership contributions.

Note 4 — Pension Plan:

RPB has a trustee, defined contribution pension plan covering all active employees who have completed 1,000 hours of service. The plan was amended during 1978 to comply with the Employee Retirement Income Securities Act of 1974. Pension expense for 1978 amounted to \$37,987 (\$25,271 in 1977).

Note 5 — Investments:

Investments owned and the respective market values at December 31, 1978 and 1977 were:

| | 1 9 7 8 | | 1 9 7 7 | |
|-----------------------------------|-------------------------------|---------------------|--------------------|---------------------|
| | Carrying value (Note 1) | Market value | Carrying value | Market value |
| MCA Inc. common stock .. | \$4,957,454 | \$12,712,404 | \$3,963,808 | \$ 8,626,448 |
| Other common stock ... | 262,235 | 309,422 | 186,975 | 218,761 |
| U.S. Government obligations | 2,377,036 | 2,286,300 | 1,882,686 | 1,882,175 |
| Certificates of deposit .. | | | 250,000 | 250,000 |
| Corporate bonds | 20,431 | 19,850 | 20,431 | 21,050 |
| | <u>\$7,617,156</u> | <u>\$15,327,976</u> | <u>\$6,303,900</u> | <u>\$10,998,434</u> |

Note 6 — Changes in Working Capital:

All assets and liabilities of RPB are current except for certain long-term investments, long-term professorship grants payable, and deferred compensation. Increase

(decrease) in working capital for the years ended December 31, 1978 and December 31, 1977 was (\$217,238) and \$526,863, respectively. These changes resulted primarily from changes in short-term securities which are usually reinvested upon maturity.

Statement of Functional Expenses, Year Ended December 31, 1978

(With comparative totals for 1977) (Note 1)

| | Program Services* | | | | | | Supporting Services | | | Total Expenses | |
|---|-------------------|---|------------------------------|--|-------------------------------------|------------------|------------------------|-----------------|------------------|------------------|------------------|
| | Research grants | Scientific symposia, seminars and surveys | Research program development | Laboratory construction support projects | Public and Professional information | Total | Management and General | Fund raising | Total | 1978 | 1977 |
| Research grants to medical schools and other institutions | \$373,500 | | | | | \$373,500 | | | | \$373,500 | \$235,000 |
| Special Scientific Scholar grants | 88,569 | | | | | 88,569 | | | | 88,569 | 83,190 |
| Research Professorship, International Research Scholars and Manpower grants | 107,500 | | | | | 107,500 | | | | 107,500 | 100,000 |
| Salaries | | \$22,309 | \$23,888 | \$2,939 | \$ 54,691 | 103,827 | \$41,992 | \$ 5,623 | \$ 47,615 | 151,442 | 135,425 |
| Employee health and retirement benefits .. | | 9,155 | 11,563 | 1,476 | 20,519 | 42,713 | 16,816 | 2,424 | 19,240 | 61,953 | 45,204 |
| Payroll taxes | | 1,048 | 1,174 | 133 | 2,645 | 5,000 | 2,068 | 265 | 2,333 | 7,333 | 6,037 |
| Professional fees | | | 5,000 | | 5,000 | 10,000 | 3,450 | | 3,450 | 13,450 | 14,566 |
| Outside consultants | | | | | | | 18,500 | | 18,500 | 18,500 | 4,000 |
| Professional services | | 414 | 6,763 | | 13,457 | 20,634 | 1,029 | 1,050 | 2,079 | 22,713 | 23,278 |
| Conference, seminars and meetings | | 12,558 | 1,630 | 839 | 1,330 | 16,357 | 385 | 32 | 417 | 16,774 | 13,569 |
| Travel | | 2,168 | 1,543 | 1,640 | 1,055 | 6,406 | 364 | | 364 | 6,770 | 3,866 |
| Telephone and telegraph | | 593 | 1,364 | 107 | 1,425 | 3,489 | 478 | 78 | 556 | 4,045 | 4,059 |
| Postage and shipping | | 450 | 4,410 | | 17,020 | 21,880 | 342 | 587 | 929 | 22,809 | 9,214 |
| Printing and stationery | | 3,409 | 21,254 | | 66,952 | 91,615 | 349 | 2,664 | 3,013 | 94,628 | 59,642 |
| Office supplies | | 122 | 155 | | 1,619 | 1,896 | 1,528 | | 1,528 | 3,424 | 3,158 |
| Office equipment rental and maintenance .. | | 124 | 209 | | 974 | 1,307 | 275 | 197 | 472 | 1,779 | 1,337 |
| Dues and subscriptions | | 472 | 880 | | 454 | 1,806 | 79 | | 79 | 1,885 | 1,618 |
| Insurance | | 36 | 97 | | | 133 | 52 | | 52 | 185 | 87 |
| Office equipment | | | | | | | | | | | 1,509 |
| Total Expenses | \$569,569 | \$52,858 | \$79,930 | \$7,134 | \$187,141 | \$896,632 | \$87,707 | \$12,920 | \$100,627 | \$997,259 | \$744,759 |

Report of Independent Accountants



* See Note 2—Page 21

To the Board of Trustees of Research to Prevent Blindness, Inc.

In our opinion, the accompanying balance sheets and the related statements of support, revenue, expenses and changes in fund balances and of functional expenses present fairly the financial position of Research to Prevent Blindness, Inc. at December 31, 1978 and 1977 and its support, revenue, expenses and changes in fund balances for the years then ended, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances, including accounting for securities owned at December 31, 1978 and 1977 by examination or correspondence with the depository.

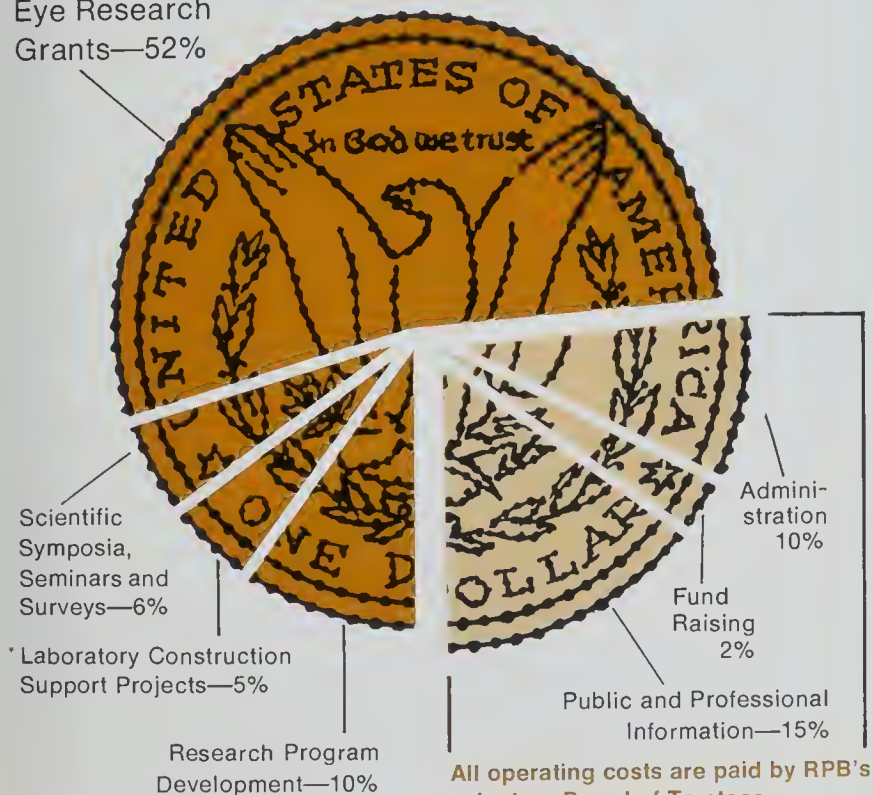
April 23, 1979

Price Waterhouse & Co.

How RPB Funds Were Invested, 1960-1978

73% RESEARCH

Eye Research
Grants—52%



* Laboratory Construction
Support Projects—5%

Research Program
Development—10%

*Represents RPB expenditures in
underwriting research
building campaigns.

**All operating costs are paid by RPB's
volunteer Board of Trustees,
thus freeing all other donations for
programs in support of research.**

RPB's Fund Raising Costs are Less than 2%



RPB Budget of Expenditures and/or Commitments — 1979

Research Grants and Other Program Expenditures and/or Commitments:

| | |
|---|--------------------|
| Research Grants to Medical Schools and Other Institutions | \$ 395,000 |
| Special Scientific Scholar and International Research Scholar Grants | 110,000 |
| Research Professorship and Visiting Professor Grants | 85,000 |
| Special, Emergency and Research Manpower Grants | 50,000 |
| Research Laboratory Construction Grants | 100,000 |
| Research Program Development | 90,000 |
| Scientific Surveys, Seminars and Symposia | 100,000 |
| Public and Professional Information | 160,000 |
| | <u>\$1,090,000</u> |

Supporting Services:

| | |
|---|---------------------------|
| Salaries, Employee Benefits and Payroll Taxes | \$ 68,000 |
| Professional/Consultant Fees and Services | 16,000 |
| Travel and Meetings | 1,000 |
| Telephone and Telegraph | 500 |
| Postage, Printing and Shipping | 800 |
| Office Supplies, Equipment and Maintenance | 3,000 |
| Fund Raising | 13,500 |
| Miscellaneous (dues, subscriptions, etc.) | 700 |
| | <u>\$ 103,500</u> |
| Total Planned Expenditures and Commitments | <u>\$1,193,500</u> |

IN ADDITION to research grants shown on
preceding pages, RPB has underwritten research
building campaigns whose proceeds of \$29.7 million
through 1978 were donated directly to the
institutions involved.



Research To Prevent Blindness, Inc.

598 Madison Avenue, New York, New York 10022

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Jules Stein, M.D.
Chairman

RPB suffered the loss of a beloved friend and most effective champion of eye research in the passing of Olga Keith Wiess on August 7, 1978 at her home in Houston, Texas. Mrs. Wiess joined RPB's Board of Trustees in 1964 and played a continuous role in the formation of its programs. Her philanthropies embraced numerous human activities and needs and reached most deeply into the research fight against blindness through her generous support of RPB. In December, 1978, the Trustees had the special privilege of electing to Board membership the daughter of Mrs. Wiess—Mrs. Lloyd H. Smith of Houston, and look forward with pleasure to her involvement with RPB's programs.

David F. Weeks
Executive Vice President

William J. vanden Heuvel
Secretary and Counsel

Albert V. Burns
Public Information Director



Your Gift or Bequest is Tax Deductible

Research to Prevent Blindness, Inc. (RPB) is recognized by the U.S. Internal Revenue Service as a publicly supported tax exempt organization under section 501(c)(3) of the Internal Revenue Code.

Your Will

can fill a special role in eye research, assuring continued, uninterrupted progress toward the prevention of blinding diseases. It can be a living document that will help provide the blessings of sight to those who live after you. The following is a simple, appropriate form for making a bequest:

"I devise and bequeath to Research to Prevent Blindness, Inc., a corporation organized and existing under the laws of the State of New York, the sum of \$_____ (or _____% of my net probate estate) (or the following described property, i.e., stocks or other tangible assets) to be used in furtherance of its general purposes."

Many new concepts related to charitable giving and its tax benefits, such as the "Annuity Trust" and "Unitrust", have been introduced as a result of recent revisions in the Internal Revenue Code. These trusts permit a donor to provide for the benefit of a family member during life or for a term of years, with the remainder of the trust eventually passing to RPB. Thus the donor can provide for his family and, at the same time, make a tax deductible charitable gift. RPB will be happy to make information available regarding such alternatives.

Memorial Gifts

Gifts may be made to Research to Prevent Blindness, Inc., in any amount and will be acknowledged with dignity. An appropriate Memorial Card is sent in behalf of the giver to the family of the deceased. The donor receives a Thank You card of similar design.

Before You Contribute

be sure that Research to Prevent Blindness, Inc. (RPB) is the organization to which you wish to give.

There are many other organizations in the field of blindness and even "prevention" of blindness which are only minimally involved in eye research, if at all. Some provide necessary services to those already blind, others warn the public about eye problems and accidents or engage in screening programs.

RESEARCH TO PREVENT BLINDNESS, INC. (RPB) is unique among all national voluntary health organizations in that its programs and funds are directed entirely to the support of scientific research into every major blinding eye disease. RPB is making it possible to *do something* about blindness *before it happens*. Its efforts are directly responsible for unprecedented advances now being made in the treatment and prevention of visual disorders which are the cause of almost all blindness in the United States.

Contributions to RPB assist scientists at 50 top medical institutions who are saving sight by learning to control and prevent eye disease. They already have preserved or restored the vision of many thousands who otherwise would be hopelessly blind.

If it is your wish to contribute to such an organization, please make your check payable to:

RESEARCH TO PREVENT BLINDNESS

In making wills, bequests and substantial gifts, we urge you to consult your attorney or tax adviser.

RPB's fund raising costs are less than two percent through two decades of service.



RPB's operating expenses are paid entirely from the contributions of its volunteer Board of Trustees.

Research To Prevent Blindness, Inc.

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